

7. (Amended) The catalyst [of any of above 1 to 6] as claimed in claim 1 for copolymerization of olefins and styrenes, wherein at least one of three R¹'s is an aromatic hydrocarbon group having from 6 to 30 carbon atoms.

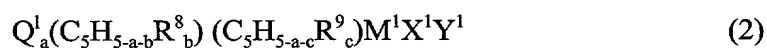
8. (Amended) The catalyst [of any of above 1 to 6] as claimed in claim 1 for copolymerization of olefins and styrenes, wherein three R¹'s are all aromatic hydrocarbon groups each having from 6 to 30 carbon atoms.

9. (Amended) The catalyst [of any of above 1 to 6] as claimed in claim 1 for copolymerization of olefins and styrenes, wherein three R¹'s are all phenyl groups.

10. (Amended) The catalyst [of any of above 1 to 9] as claimed in claim 1 for copolymerization of olefins and styrenes, wherein R² is an alkyl group having at least 2 carbon atoms.

11. (Amended) The catalyst [of any of above 4 to 10] as claimed in claim 4 for copolymerization of olefins and styrenes, wherein Z is aluminium.

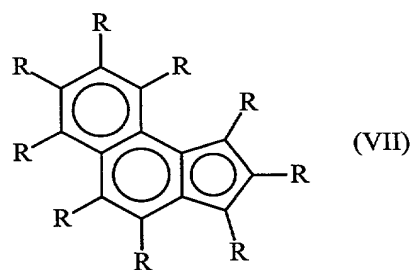
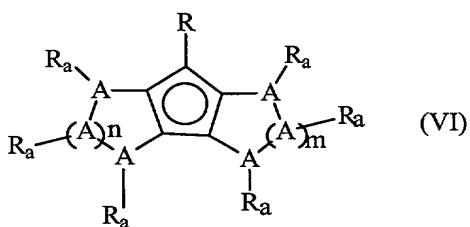
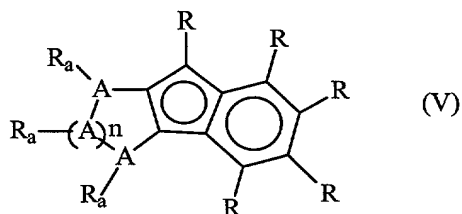
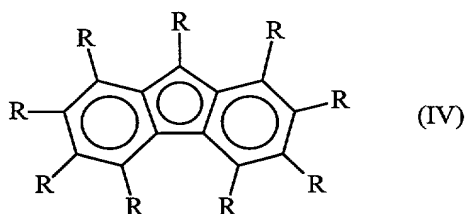
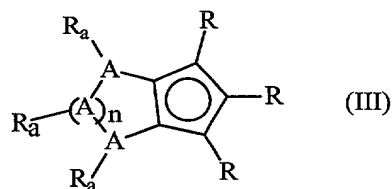
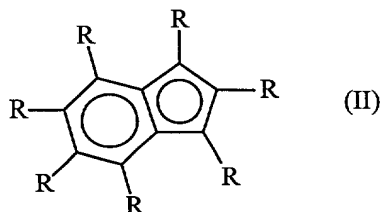
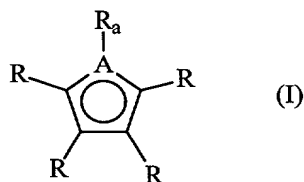
12. (Amended) The catalyst [of any of above 1 to 11] as claimed in claim 1 for copolymerization of olefins and styrenes, wherein the transition metal compound (A) is represented by any of the following general formulae (2) to (6):



in which Q¹ represents a bonding group that crosslinks the two conjugated five-membered cyclic ligands (C₅H_{5-a-b}R⁸_b) and (C₅H_{5-a-c}R⁹_c); Q² represents a bonding group that crosslinks the conjugated five-membered cyclic ligand (C₅H_{5-a-d}R¹⁰_d) and the group Z¹; R⁸, R⁹, R¹⁰ and R¹¹ each represent a hydrocarbon group, a halogen atom, an alkoxy group, a silicon-containing

hydrocarbon group, a phosphorus-containing hydrocarbon group, a nitrogen-containing hydrocarbon group, or a boron-containing hydrocarbon group; and a plurality of these groups, if any, may be the same or different, and may be bonded to each other to form a cyclic structure; a represents 0, 1 or 2; b, c and d each represent an integer of from 0 to 5 when a = 0, or an integer of from 0 to 4 when a = 1, or an integer of from 0 to 3 when a = 2; e is an integer of from 0 to 5; M¹ represents a transition metal of Groups 4 to 6 of the Periodic Table; M² represents a transition metal of Groups 8 to 10 of the Periodic Table; L¹ and L² each represent a coordination-bonding ligand; X¹, Y¹, Z¹, W¹ and U¹ each represent a covalent-bonding or ionic-bonding ligand; and L¹, L², X¹, Y¹, Z¹, W¹ and U¹ may be bonded to each other to form a cyclic structure.

13. (Amended) The catalyst [of above 12] as claimed in claim 1 for copolymerization of olefins and styrenes, wherein, in the transition metal compound (A) of formula (4), the group (C₃H_{5-e}R¹¹) is represented by any of the following general formulae (I) to (VII):



wherein A represents an element of Group 13, 14, 15 or 16, and plural A's may be the same or different; R represents a hydrogen atom, a halogen atom, an aliphatic hydrocarbon group having from 1 to 30 carbon atoms, an aromatic hydrocarbon group having from 6 to 30 carbon atoms, an alkoxy group having from 1 to 30 carbon atoms, an aryloxy group having from 6 to 30 carbon atoms, a thioalkoxy group having from 1 to 30 carbon atoms, a thioaryloxy group having from 6 to 30 carbon atoms, an amino group, an amido group, a